

WHAT IS CLAIMED IS:

1. An endoscopic retractor instrument assembly comprising:
an insertion or deployment tube insertable through a channel of an endoscopic instrument;
a balloon or bladder having a pair of expandable or inflatable end members and at least one expandable or inflatable spacer member connecting said end members to one another, said balloon or bladder being disposed in a collapsed configuration inside said tube; and
inflation means operatively coupled with said balloon or bladder for inflating said balloon or bladder from said collapsed configuration to an expanded use configuration in which said spacer member pushes said end members apart from one another.
2. The retractor instrument assembly defined in claim 1 wherein said inflation means includes an additional tube connected to said balloon or bladder.
3. The retractor instrument assembly defined in claim 2 wherein said inflation means further includes a one-way valve disposed between said additional tube and said balloon or bladder.
4. The retractor instrument assembly defined in claim 3 wherein said valve is disposed in a nipple or nub element connected to said balloon or bladder.
5. The retractor instrument assembly defined in claim 4 wherein said additional tube is removably connected to said nipple or nub element.

6. The retractor instrument assembly defined in claim 1 wherein said inflatable end members are toroidal.

7. The retractor instrument assembly defined in claim 6 wherein said spacer member is one of a plurality of elongate expandable or inflatable spacer members each having one end connected to and communicating with one of said end members and an opposite end connected to and communicating with another one of said end members.

8. The retractor instrument assembly defined in claim 6 wherein one of said inflatable end members has a central aperture and is provided with a membrane extending across said aperture to close said aperture and prevent passage of objects through said aperture.

9. The retractor instrument assembly defined in claim 1 wherein said spacer member is one of a plurality of elongate expandable or inflatable spacer members each having one end connected to and communicating with one of said end members and an opposite end connected to and communicating with another one of said end members, said spacer members being spaced from each other to provide unobstructed access to an interior wall of an organ.

~~10.~~ A medical method comprising:

providing a flexible endoscope having an insertion member;

providing an endoscopic retractor instrument;

inserting a distal end portion of said insertion member into a patient;

upon inserting of said distal end portion into the patient, deploying said retractor instrument at said distal end portion of said insertion member; and

after deploying of said retractor instrument, operating said retractor instrument to engage an inner wall of an internal organ of the patient so as to spread said inner wall.

11. The method defined in claim 10 wherein said retractor instrument includes a balloon or bladder member, the operating of said retractor member including feeding a fluid to said balloon or bladder to inflate said balloon or bladder from a collapsed configuration to an expanded use configuration.

12. The method defined in claim 11, further comprising:

subsequently to the feeding of said fluid to said balloon or bladder, removing at least a portion of said fluid from said balloon or bladder to at least partially collapse said balloon or bladder from said expanded use configuration; and

removing the at least partially collapsed balloon or bladder from the patient.

13. The method defined in claim 12, further comprising, after the feeding of said fluid to said balloon or bladder, severing a tissue sample from the inner wall of the internal organ of the patient, the removing of said at least partially collapsed balloon or bladder from the patient including entraining the severed tissue sample with said at least partially collapsed balloon or bladder and extracting the severed tissue sample with said at least partially collapsed balloon or bladder from the patient.

14. The method defined in claim 11 wherein the deploying of said retractor instrument includes ejecting said retractor instrument in said collapsed configuration from a tubular member into the patient.

15. The method defined in claim 10 wherein said retractor instrument includes a plurality of parts movably connected to one another, said retractor instrument being attached to an outer surface of said insertion member during the inserting of said distal end portion into the patient, the operating of said retractor instrument including moving said parts relative to one another to increase an effective diameter of said retractor instrument.

16. The method defined in claim 15 wherein said retractor instrument includes a plurality of prongs arranged in a cylindrical configuration on a ring member surrounding said insertion member during the inserting of said distal end portion into the patient, the operating of said retractor instrument including spreading said prongs so that said retractor instrument assumes a substantially conical configuration.

~~17.~~ An endoscopic retractor instrument comprising:

a plurality of parts movably connected to one another;

means for mounting said parts in a collapsed or reduced-size configuration to a flexible and steerable insertion member of an endoscope; and

actuation means operatively connected to said parts for enabling a movement of said parts relative to one another so that said parts assume an enlarged or expanded configuration for spreading internal tissues of a patient.

18. The retractor instrument defined in claim 17 wherein said means for mounting said parts includes means for attaching said parts to an outer surface of said insertion member.

19. The retractor instrument defined in claim 17 wherein said means for mounting includes means for removably attaching said parts to said insertion member.

20. The retractor instrument defined in claim 18 wherein said parts include a plurality of expandable or inflatable balloon or bladder parts.